

REMARKS

This application has been carefully reviewed in light of the Office Action dated July 28, 2005. Claims 1 to 30 and 51 to 54 are pending in the application, of which Claims 1, 11 and 21 are independent. Reconsideration and further examination are respectfully requested.

Claim 39 was missing from the last response. The cancellation of Claim 39 herein renders moot this objection. Accordingly, withdrawal of this objection is respectfully requested.

The drawings were objected to because they include reference characters not mentioned in the description. Specifically, reference character "16" of FIG. 1 was not described. Applicants submit that the amendment to the specification herein is believed to render this objection moot. Accordingly, withdrawal of this objection is respectfully requested.

Claims 1, 11 and 21 were rejected under 35 U.S.C. § 102(e) over U.S. Patent No. 6,661,530 (Munetomo). Claims 2 to 4, 6, 10, 12 to 14, 16, 20, 22 to 24, 26 and 30 were rejected under 35 U.S.C. § 103(a) over Munetomo in view of U.S. Patent No. 5,923,013 (Suzuki). Claims 5, 15 and 25 were rejected under 35 U.S.C. § 103(a) over Munetomo in view of Suzuki, and in further view of U.S. Patent No. 5,864,634 (Kurita). Claims 7, 17 and 27 were rejected under 35 U.S.C. § 103(a) over Munetomo in view of Suzuki, and in further view of U.S. Patent No. 6,788,427 (Okigami). Claims 9, 19 and 29 were rejected under 35 U.S.C. § 103(a) over Munetomo in view of Suzuki. Claims 31, 36, 41 and 46 were rejected under 35 U.S.C. § 103(a) over Munetomo in view of U.S. Patent No. 6,094,552 (Haneda). Claims 32, 33, 37, 38, 42, 43, 47 and 48 were rejected under 35 U.S.C. § 103(a) over Munetomo in view of Haneda, and in further view of U.S. Patent No. 6,101,513 (Shakib). Claims 34, 35, 39, 40, 44, 45, 49 and 50 were rejected under 35

U.S.C. § 103(a) over Munetomo in view of Haneda, and in further view of U.S. Patent No. 5,995,985 (Cai). Reconsideration and withdrawal of these rejections are respectfully requested.

The present invention generally concerns generating preview images of print jobs. In the present invention, preview images are created based on an intermediate code rather than on the actual print job data. Accordingly, an application may request a print job and the user may have an opportunity to view the print job, without requiring the application to continue running until the actual print job is processed since the print data is spooled and used not only for previewing, but also for creating the print job.

A system in accordance with the present invention features generating a print preview during a process of transmitting print data from the application to the printer driver. The print data is output from the application, and the print data is spooled as intermediate code format data. Therefore, a system in accordance with the present invention not only displays the preview image based on the spooled intermediate code format data but also creates print job. This is possible because the data is transmitted through a single route.

Turning to specific claim language, amended independent Claim 1 is directed to an information processing apparatus that creates print job to be printed by a printing apparatus having an inversion process function. The apparatus includes: receiving means for receiving print data for printout from an application; intermediate data converting means for converting print data received from the application to an intermediate code format data and storing the converted intermediate code format data and processing conditions of the print data; detection means for analyzing the processing conditions and detecting a setting of the inversion process function to be executed by the printing apparatus; preview display controlling means for displaying a preview image of the print

processing result in advance based on the print data stored by the intermediate data converting means and processing conditions; and job creation means for creating the print job based on the intermediate code format data stored by the intermediate data converting means, after the preview display controlling means displays the preview image. The intermediate code format data is also used for the preview image, and the preview display controlling means displays the preview image reflecting the inversion process to be executed by the printing apparatus. The job creation means creates the print job on which the inversion process has been not executed, in a case where the detection means detects the setting of the inversion process function.

In contrast, Munetomo discloses generating a preview image and displaying the preview image on the display. For example, mirroring and black-and-white inversion are disclosed as part of the preview image. In a system in accordance with the disclosures of Munetomo, application 2.1 has a separate interface 2.4 for print assistance software 2.9, and a separate interface 2.3 for printer driver 2.16 (all of Fig. 2). Hence with two available routes, print data is transmitted from the application to the print assistance software for previewing, and the same data is again transmitted from the application to the printer driver for printing. In other words, a system in accordance with the disclosures of Munetomo requires users to perform two operations for previewing and printing. Furthermore, the dual operations require the application to be running until the print data is finally transmitted to the printer driver.

In the present invention as featured in Claim 1, print data for printout is received from an application and then converted into an intermediate data format and stored. A preview display controlling means displays a preview image of the print processing result in advance based on the print data stored by the intermediate data converting means and processing conditions. A job creation means creates the print job

based on the stored intermediate code format data, after the preview display controlling means displays the preview image. In this way, the application may be released during any previewing operations requested by a user. A system in accordance with the disclosures of Munetomo does not include these features and would not provide such an advantage.

Furthermore, Suzuki discloses analyzing a print job and generating page data of page units based on the analysis and managing the generated page data while Kurita discloses a preview display of data based on color inversion. Haneda discloses setting of a binding margin performed by an image formation apparatus. The binding margins of even-numbered pages and odd-numbered pages are set in contrary in a case where the image formation apparatus performs double-sided printing. Finally, Cai discloses processing for mapping from data of a database into output format data. Accordingly, nothing in Suzuki, Kurita, Haneda or Cai is seen to disclose nor suggest that which is missing in Munetomo, namely: receiving print data for printout from an application; converting print data received from the application to an intermediate code format data and storing said converted intermediate code format data and processing conditions of said print data; displaying a preview image of the print processing result in advance based on the print data stored by said intermediate data converting means and processing conditions; and creating the print job based on the stored intermediate code format data, after display of the preview image, wherein the intermediate code format data is also used for the preview image.

In light of the deficiencies of Munetomo, Suzuki, Kurita, Haneda and Cai as discussed above, Applicants submit that amended independent Claim 1 is now in condition for allowance and respectfully request same.

Amended independent Claims 11 and 20 are directed to a method and a storage medium storing a program, respectively, substantially in accordance with the

apparatus of Claim 1. Accordingly, Applicant submits that Claims 11 and 20 are also now in condition for allowance and respectfully requests same.

Newly-added Claims 51 to 54 concern a system which determines mirroring in the unit of logical page, in a case where mirroring and Nup printing are set. If it is determined to apply the mirroring in the unit of logical page, display data placed with mirrored images of each logical page is displayed as the preview.

Turning to the claims, Claim 51 is directed to an information processing apparatus that creates print data. The apparatus comprises: spooling means for storing print data created by an application; determining means for determining whether mirroring setting is set as print setting for the print data; preview display controlling means for, in a case where said determining means determines that the mirroring setting is set, creating mirrored display data based on the print data stored by said spooling means and presenting a preview; and mirroring unit determining means for, in a case where mirroring setting is set as the print setting for the print data and a Nup setting for placing N logical pages on one physical page is set, determining whether the mirrored display data to be created in unit of a logical page or not, wherein in a case where said mirroring unit determining means determines that the mirrored display data to be created in unit of the logical page, said preview display controlling means creates the mirrored display data for placing the mirrored image of each logical page without changing an arrangement order of each logical page to be placed on the physical page.

Claims 52, 53 and 54 are directed to a method, a medium storing a computer program and a computer program, respectively, substantially in accordance with Claim 51. In light of the disclosures of Munetomo, Suzuki, Kurita, Hameda and Cai as discussed above, Applicants submit that Claims 51 to 54 are allowable over the cited references and respectfully request same.

The other claims in this application are each dependent from one of the independent claims discussed above and are therefore believed allowable for at least the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the allowability of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, the entire application is believed to be in condition for allowance, and such action is respectfully requested at the Examiner's earliest convenience.

Applicants' undersigned attorney may be reached in our Costa Mesa, CA office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



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